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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Uwe Krauss

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EXAMINER

ROBINSON, CHANCEITY N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,540	Applicant(s) KRAUSS ET AL.	
	Examiner CHANCEITY N. ROBINSON	Art Unit 4191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/26/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2 and 4-18 is/are pending in the application.
 4a) Of the above claim(s) 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Method for the Production of Photopolymerizable, Cylindrical, Continuous Seamless Flexographic Printing Elements, and Use thereof for the Production of Cylindrical Flexographic Printing Forms

Examiner: Chanceity Robinson S.N. 10/553,540 Art Unit: 4191 Date: April 28, 2008

DETAILED ACTION

1. The Applicant's request for reconsideration filed on March 26, 2008 was received.

Claim 3 is canceled.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on December 27, 2007.

Claim Rejections - 35 USC § 112

3. The claim rejections under 35 U.S.C. 112, second paragraph, on claims 1-18 are withdrawn, because the dependent claim 3 has been canceled.

Claim Rejections - 35 USC § 103

4. The claim rejections under 35 U.S.C. 103 (a) as unpatentable over Cushner et al. in view of Schober et al on claims 1-17 are maintained. The rejection is repeated below for convenience.

Regarding claim 1, Cushner et al. teach a method (process) for forming a seamless cylindrical photosensitive element ,the printing element comprises a photopolymerizable layer (material), which comprises an elastomeric binder (butadiene/styrene thermoplastic-elastomeric block copolymers), at least one monomer (single or mixture of ethylenically unsaturated monomers i.e. acrylate and methacrylate mono-and polyesters of alcohols and polyols) and an

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photoinitiator (free-radical initiator i.e. aromatic ketones or substituted or unsubstituted quinones), to the outer surface of a sleeve (hollow cylinder) and joining the layers ends by calendering through a variety of steps (abstract; column1, lines 33-37 ; column1, lines 66 - column 2, lines 5;column 3,lines 5-22;column 13,lines 64- column 15,lines 27).

Regarding step (a & f), Cushner et al. teach a polymerization layer (printing element of the sleeve) formed on a film (a laminate with a photopolymerizable material and a substrate film (i.e. polyester film (coversheet)), which the film can be peeled off (removed) from the layer (column 18, lines 13-24, and 32-34; example 1).

Regarding step (c-e & g), Cushner et al. teach to cut the printing element's sleeve edges(laminate) into sizes, a hollow cylinder (sleeve) is place onto a rotatably mounted support cylinder (mandrel with calender rolls) and screwed in with a drill (locking it thereon), to an outer surface of the photopolymerizable layer of the element was spray coated with an adhesive to form a release layer to the hollow cylinder (sleeve), the edges of the printing element at a given temperature determined from the composition of the photopolymerizable layer by surfacing the layer onto the hollow cylinder (sleeve) into contact with a rotating mandrel with calender roll until the edges are joined (example 1-8).

Regarding step (h), Cushner et al. teach the hollow cylinder (sleeve) can be removed from the support the cylinder (column 19, lines 3-6).

However, Cushner et al. does not teach cutting the edges to be joined to size by means of bevel cut, which is disclosed in steps (b) and (e) in the present application. Schober et al. disclose a diagonal cut at the edges of the printing plate or printing elements to be joined (column 3, lines 24 -27, 55-65; figure 1 and figure 3, claim 2). At the time of invention, it would have been

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obvious to one of ordinary skill in the art to make a bevel cut to the printing element taught by Cushner et al. in order to make a seamless printing element. The suggestion/motivation would have been to obtain a seamless flexographic printing material with a neat, seamless joint between the ends of cylindrical flexographic print element to be connected using a reasonable amount of outlay and avoiding a visible distortion of the final printed product in the seam region.

Regarding claims 2-3, Cushner et al. teach multiple layered sleeves include an adhesive or tape which are two-ply layered or double-sided, with static shear strength (column 18, lines 26-29). Furthermore, claim 3, as discussed above, Cushner et al. does not appear to explicitly disclose the static shear strength at the given time and temperature, by said applicant. However, it can be inherent that properties of the prior art and the applicant are the same. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. In re Robertson, 49 USPQ2d 1949 (1999). Applicant is advised to submit other information with respect to the Cushner's adhesive properties, if it is shown to be patentably distinct from the instant invention.

Regarding claim 4, Cushner et al. teach a peelable film, on the side of the layer which faces the substrate (support) film (column 18, lines 13-24, and 32-34; example 1-8).

Regarding claim 7, Cushner et al. teach a coated mandrel which rotates in the direction of (E) during calendering, as so the applicant claim the same rotational direction (7) (figure 2A, 2B, and 3, column 9, lines 45 -51).

Regarding claim 8, Cushner et al. teach the plate surface during calendering is from a range of 90 to 180°C (column 8, lines 28-37, examples 1-8).

Regarding claim 9, Cushner et al. teach a support cylinder is an air cylinder i.e. a cylinder place inside/outside of a vacuum (column 16, lines 20-36; example 1-8).

Regarding claim 10, Cushner et al. teach (step i) digitally imageable layer (in situ masks) is applied to the photopolymerizable layer (column 15, lines 45-57).

Regarding claim 11, Cushner et al. teach a digitally imageable layer (in situ mask) from the group disclose by the applicant, one in which is transparent to actinic radiation (column 15, lines 50-66; examples 1-8).

Regarding claim 12, Cushner et al. teach a product (cylindrical, continuously seamless photopolymerizable flexographic printing element) by the process of claim 1, by said applicant (examples 1-8).

Regarding claim 13, Cushner et al. teach a said product have a digitally image layer (mask) and obtainable by the process of claim 10, by said applicant (column 15, lines 45-57; examples 1-8).

Regarding claim 14, Cushner et al. teach the use of the a digitally imageable cylindrical printing element is used for the production of the seamless printing plates, in which the mask is recorded on imagewise, the photopolymerizable layer is exposed to actinic light through the mask formed and unexposed parts of the layers are removed in the development step (column 15, lines 67- column 16, lines 53; examples 1-8).

Regarding claim 15, Cushner et al. teach the exposed layer is carried out by a solvent i.e. aqueous solution (column 16, lines 53-column 17, lines 7).

Regarding claim 16, Cushner et al. the exposed layer during the development stage is carried out thermally (column 17, lines 17-21, examples 1-8).

Regarding claim 17, Cushner et al. the printing plates, photopolymerizable layer is completely crosslinked with actinic light and a printing relief is engraved into polymerizable layer by means of a laser.

6. The claim rejections under 35 U.S.C. 103(a) as being unpatentable over Cushner et al. and Schober et al. as applied to claims 1-17 above, and further in view of Bode et al. on claim 18 is maintained. The rejection is repeated below for convenience.

Cushner et al. and Schober et al. do not appear to explicitly disclose the laser or lasers properties as defined in claim 18. Bode et al. teach a method for the use of the flexographic printing element for the production of continuously seamless flexographic printing plate comprising of a photopolymerizable layer which is engraved by a laser, wherein the laser or laser have an absorption in the wavelength range between 750 to 20000 nm [0041, 0048, 0055-56]. Bode et al. teach more specifically, laser which are carbon black (inorganic pigments), merocyanine dyes, polysubstituted phthalocyanine compounds, or cyanine dyes. Therefore, it is obvious to one of ordinary skill in the art to use a laser with a wavelength ranging from 750 to 20000 nm onto the process of Cushner and Schober, because Bode teaches the use of a laser, which has an absorption range, overlaps the claimed range in the present application.

Response to Arguments

6. Applicant's arguments filed March 26, 2008 have been fully considered but they are not persuasive.

Applicant's principal arguments are

(a) Cushner et al. do not disclose the inventive step (g) of joining the edges at a temperature below the melting point of the photopolymerizable layer by brining the surface of the photopolymerizable layer on the hollow cylinder into contact with a rotating calendar roll until the cut edges are joined together;

(b) Cushner et al. do not teach or suggest step (b);

(c) Step (e) of the inventive process of claim 1 of the present application requires that the laminate being "cut to size" and the ends provided with a bevel cut substantially resting against one another but not overlapping is not taught or suggested.

In response to Applicant's arguments, please consider the following comments:

(a) Cushner et al. disclose a photopolymerizable layer can be made up of one of the following elements: Kraton 2105 (Melting point: 150°C, sec.edgar.online.com), poilyoil (Melting point: 40-125°C, www.coatings-colorants.com), and etc (see example 4). Furthermore, Cushner et al. disclose in example 6 the temperature of the calender rolls was 225°F (107°C), which meets the limitation in claim 1 that joining the edges at a temperature below the melting point of the photopolymerizable layer by calendering.

(b) Examiner agrees that Cushner et al. do not explicitly disclose step (b) of the present application, the cutting the edges of the laminate to be joined to size by means of bevel cut. However, Schober et al. teach cutting the edges of the laminate to be joined to size by means of bevel cut (label 10) as shown in figure 1 of the reference.

(c) Again, Examiner agrees that Cushner et al. do not explicitly disclose step (e) of the present application, "the ends provided with the bevel cut substantially resting against one

another but not overlapping". However, Schober et al. teach disclose a diagonal cut at the edges of the printing plate or printing elements to be joined (column 3, lines 24 -27, 55-65; figure 1 and figure 3, claim 2). At the time of invention therefore, it would have been obvious to one of ordinary skill in the art to make a bevel cut to the printing element taught by Cushner et al. in order to make a seamless printing element. The suggestion/motivation would have been to obtain a seamless flexographic printing material with a neat, seamless joint between the ends of cylindrical flexographic print element to be connected using a reasonable amount of outlay and avoiding a visible distortion of the final printed product in the seam region.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHANCEITY N. ROBINSON whose telephone number is

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(571)270-3786. The examiner can normally be reached on Monday to Thursday: 7:30 am-5:30 pm eastern time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571)272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chanceity N Robinson/
Examiner, Art Unit 4191

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 4191